We claim:

1. (original) A process for the removal of dissolved organic carbon from water, which process includes the following steps:

    a) dispersing a magnetic ion-exchange resin in water containing dissolved organic carbon to enable adsorption of the organic carbon from the water onto the resin: and
    b) separating the magnetic ion-exchange resin loaded with organic carbon from the water.

2. (original) A process according to claim 1 wherein the magnetic ion exchange resin is dispersed by adding the magnetic ion-exchange resin to the water while imparting sufficient shear on the water to disperse the resin in the water.

3. (original) A process according to claim 1 wherein the magnetic ion exchange resin loaded with organic carbon is separated from the water by

    i) agglomerating the magnetic ion-exchange resin loaded with the organic carbon; and
    ii) separating the agglomerated magnetic ion-exchange resin loaded with organic carbon from the water.

4. (original) A progress according to claim 3 wherein the resin is dispersed by mechanical agitation, mixing pumps immersed in the water or air agitation.

5. (original) A process according to claim 3 wherein the loaded resin is separated from the water by settling, screening or a combination thereof.

6. (original) A process according to claim 3 wherein the loaded resin is separated from the water by settling and wherein the ion exchange resin is more dense than the water.

7. (original) A process according to claim 6 wherein the settled resin is collected by vacuum collection.

8. (original) A process according to claim 6 wherein the settled resin is collected by magnetic transport.

9. (original) A process according to claim 6 wherein the settling is facilitated by tilted plates or tubular modules.

10. (original) A process according to claim 1 which is a process for the removal of contaminants from solution wherein the ion-exchange resin is dispersed in the contaminated water.

11. (original) A process according to claim 1 wherein said process further comprises a step of disinfecting the water.

12. (original) A process for the production of potable water suitable for distribution and consumption from a raw water source which comprises the steps of claim 1.

13. (original) A process for the treatment of waste water which comprises the steps of claim 1.

14. (original) A process according to claim 1 for the removal of dissolved organic carbon from water, which process includes the following steps:

a) adding a magnetic ion-exchange resin to water containing dissolved organic carbon, while imparting sufficient shear on the water to disperse

the resin in the water, thereby enabling adsorption of the dissolved organic carbon onto the magnetic ion-exchange resin;

b) agglomerating the magnetic ion-exchange resin loaded with the organic carbon;

c) separating the agglomerated magnetic ion-exchange resin loaded with organic carbon from the water;

d) regenerating a portion of said agglomerated resin, with the remainder being returned to step a), thereby allowing continuous treatment of the water; and

e) returning regenerated agglomerated resin to step a).

15. (original) A progress according to claim 14 wherein the resin is dispersed by mechanical agitation, mixing pumps immersed in the water or air agitation.

16. (original) A process according to claim 14 wherein the loaded resin is separated from the water by settling, screening or a combination thereof.

17. (original) A process according to claim 16 wherein the loaded resin is separated from the water by settling and wherein the ion exchange resin is more dense than the water.

18. (original) A process according to claim 17 wherein the settled resin is collected by vacuum collection.

19. (original) A process according to claim 17 wherein the settled resin is collected by magnetic transport.

20. (original) A process according to claim 17 wherein the settled resin is collected by filtration.

21. (original) A process according to claim 17 wherein the settling is facilitated by tilted plates or tubular modules.

22. (original) A process according to claim 17 wherein gravity settling is employed.

23. (original) A process according to claim 14 wherein the ion-exchange resin has cationic functional groups.

24. (original) A process according to claim 14 wherein the ion-exchange resin is particulate and the particles have a diameter less than 100Φm.

25. (original) A process according to claim 24 wherein the ion-exchange resin particles have a diameter in the range of from 25Φm to 75Φm.

26. (original) A process according to claim 14 wherein the ion-exchange resin is macroporous.

27. (original) A process according to claim 14 wherein the ion-exchange resin is manufactured from cross-linked polystyrene based polymers.

28. (original) A process according to claim 14 wherein the ion-exchange resin is present in the water in the range of from 0.5 to 5ml of wet resin per litre of water.

29. (original) A process according to claim 11 wherein the resin regeneration process includes the following steps:

i) packing the spent resin into a column; and
ii) passing brine through the packed column for desorption of the dissolved organic carbon from the resin.

30. (original) A process according to claim 14 which comprises a process for the removal of contaminants from solution wherein the ion-exchange resin is dispersed in the contaminated water.

31. (original) A process according to claim 14 wherein said process further comprises a step of disinfecting the water.

32. (original) A process according to claim 31 wherein the water is disinfected after treatment with ion exchange resin.

33. (original) A process according to claim 32 wherein the water is disinfected with chlorine.

34. (original) A process according to claim 14 wherein said process is a pre-treatment prior to subjecting the pretreated water to membrane filtration.

35. (original) A process according to claim 14 wherein said process is a pretreatment prior to subjecting the pretreated water to a coagulation/sedimentation process.

36. (original) A process according to claim 14 wherein the process further comprises a step of treating the water with activated carbon after treatment with ion-exchange resin.

37. (original) A process according to claim 11 wherein the resin regeneration process includes the following steps:

i) adding the magnetic ion-exchange resin loaded with organic carbon to brine;

ii) dispersing the loaded magnetic ion-exchange resin in the brine for the desorption of the organic carbon from the magnetic ion-exchange resin to regenerate the resin;

iii) agglomerating the regenerated magnetic ion-exchange resin; and

iv) separating the regenerated magnetic ion-exchange resin from the brine.

38. (original) A process for the production of potable water suitable for distribution and consumption from a raw water source which comprises the steps of claim 1.

39. (original) A process for the treatment of waste water which comprises the steps of claim 1.

40. (currently amended) A water treatment process which comprises the steps of:

a) removing dissolved carbon from the water by the process of claim 14; and

b) subjecting the water from which dissolved carbon has been removed to a coagulation or sedimentation process.

41. (currently amended) A water treatment process which comprises the steps of:

a) removing dissolved carbon from the water by the process of claim 14; and

b) subjecting the water from which dissolved carbon has been removed to a membrane filtration process.

42. (new) A method for treating drinking water comprising:

(a) providing raw water to a process tank;

(b) adding an ion-exchange resin to the process tank to form a raw water/ion-exchange resin mixture;

(c) dispersing said resin in the water to enable adsorption of dissolved organic carbon in the water onto the ion-exchange resin;

(d) subjecting the water and resin in the tank to membrane filtration to effect separation of the resin while simultaneously filtering the water.